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AT&T CORP. ROOM 2A207 ONE AT&T WAY BEDMINSTER, NJ 07921			KOVACEK, DAVID M	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/790,517	DE FABBRIZIO ET AL.	
	Examiner	Art Unit	
	David Kovacek	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 07 November 2007.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-35 is/are pending in the application.
 - 4a) Of the above claim(s) 15,22 and 31-35 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-3,5-14,16-18,20,21 and 23-30 is/are rejected.
- 7) Claim(s) 4 and 12 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

1. This Office Action is in response to the amendments and remarks submitted by the applicant, dated 11/16/2007, in which the applicant amends the abstract, specification, and claims, the applicant cancels some claims, and the applicant further provides arguments for patentability.

Response to Amendment

2. The amendments to the abstract with regard to the specified informalities cited in the previous Office Action have been considered and are accepted. Specifically, the applicant has amended the specification such that it is less than 150 words in length. The previous objection(s) to the abstract has been withdrawn.

3. The amendments to the specification with regard to the specified informalities cited in the previous Office Action have been considered and are accepted. Specifically, the applicant has corrected any particular part of the specification that had previously been unclear about the use of the acronym "DM." The previous objection(s) to the specification has been withdrawn.

4. The cancellations of **claims 15 and 22** are accepted. The previous objection(s) to **claims 15 and 22** have been withdrawn.

Specification

5. The abstract of the disclosure is objected to because line 2 of the abstract should instead read, "The spoken dialog system utilizes modular subdialogs that are [one] invoked by at least one flow controller that is a finite state model..." Correction is required. See MPEP § 608.01(b).

Response to Arguments

6. Applicant's arguments with respect to **claims 1-3, 6-25 and 28-30** have been considered but are moot in view of the new ground(s) of rejection.

Specifically, the applicants argument that Papineni (US Patent 6,246,981), cited in the previous Office Action, does not properly anticipate the limitation of a top level flow controller that is a finite state model and that managers a process of controlling speech interaction between a spoken dialog system and a user. However, the examiner notes that this argument is only applicable because of the amendment to the claim requiring the top level flow controller to be a finite state model, which significantly narrows the scope of the claim.

Similar arguments for patentability by the applicant which rely upon the limitation of a finite state model for the controller component of a dialog management system are also accepted by the examiner for the same reasons.

The applicant further argues that the teachings of Papineni do not properly disclose or render obvious that sub-dialogs are isolated from application dependencies, and explicitly points out that the disclosure of Papineni is directed to a dialog manager where the top level is isolated from application dependencies in the applicant's Remarks, dated 11/16/2007 (Page 13, lines 10-19). However, the examiner contends that in a system where sub-dialogs are only dependent upon a top level dialog manager, as is disclosed by Papineni, then if the top level dialog manager is application independent, as is suggested in the analysis of the applicant, then it is inherent for the sub-dialogs of said dialog manager to additionally be application independent.

Lastly, the applicant asserts that Papineni does not properly disclose that the dialog manager and sub-dialogs are operable using different models (Page 15, lines 01-09). However, the examiner maintains that the limitations of claims such as **claim 4** and/or **claim 5** are in fact only directed to the top level flow controller, and do not require that the top level flow controller and the appropriate reusable sub-dialogs are operable using different models.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 1-3, and 5-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,356,869 hereinafter referred to as Chapados, in view of Abella (US Patent 6,044,347), cited in the previous Office Action.

Regarding **claim 1** Chapados teaches a spoken dialog system comprising:

- a top level flow controller [discourse management apparatus] that is a finite state model and that manages a process of controlling speech interaction between a spoken dialog system and a user (Col. 2, lines 20-24); and
- a reusable subdialog [functional modules] (Fig. 3, elements 302, 304; Col. 6, lines 24-29, 32-38, 41-45)
- wherein the top level flow controller invokes the reusable subdialog from a state to handle a specific task associated with the speech interaction [logical form interpretation, conversation analysis, prompt generation, tokenization] and returns control to the top level flow controller after handling the specific task (Fig. 4, elements 400-410; Col. 6, lines 41-45),

Though return of control to the top level flow controller is not explicitly disclosed by Chapados, this is implied in disclosing that the sub-dialogs [functional modules] implement the functionality of the top level flow controller [discourse management processor], because the sub-dialogs are merely acting as subordinate components of the top level flow controller.

- wherein the reusable subdialog [functional modules] and the top level flow controller [discourse management processor] operate independent of their decision model [transition independent of the context of a conversation] (Col. 3, lines 19-22).

It is noted by the examiner that Chapados implies, but does not explicitly disclose that the reusable subdialogs are isolated from application dependencies. Abella discloses a reusable dialog [objects for handling dialogue principles] that is independent of application dependencies (Col. 8, lines 35-38).

The two references are combinable because each is directed to a dialog manager. Abella further provides motivation to combine in disclosing the utility of application independent sub-dialogs [objects] for the purpose of avoiding the need to manually define the dialogue states and simplifying the development of applications (Col. 3, lines 58-64).

Therefore, the examiner contends that it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the teachings of Chapados using the teachings of Abella for the purpose of implementing a dialog manager comprising a finite state model that includes application independent sub-dialogs for the purpose of avoiding manual definition of dialog states and simplifying the development of applications.

Regarding **claim 2**, Chapados in view of Abella discloses or renders obvious all limitations of **claim 1** as applied above, and Chapados further implies the reusable

subdialog receives context shift data upon being called [wildcard transitions] up by the top level flow controller and returns data to the top level flow controller (Col. 3, lines 30-32; Col. 9, lines 39-52) in disclosing that a “wildcard transition” is capable of allowing shifts to a predetermined state from any state in a certain group of states, which implies that the top level flow controller [discourse management processor] both initiates and directs the transition.

Regarding **claim 3**, Chapados in view of Abella discloses or renders obvious all limitations of **claim 2** as applied above, and Chapados further renders obvious a plurality of top level flow controllers [discourse management processors], each of the plurality of top level flow controllers having at least one reusable subdialog associated with it (Fig. 6, elements 510-520; Col. 9, lines 18-21).

Chapados discloses a discourse management processor that is capable of self transitioning (Col. 9, lines 18-21). It is within the capabilities of one of ordinary skill in the art to implement the same features using multiple discourse managers that are each capable of transitioning to any other discourse manager in order to reduce the necessary complexity of the operations required of each discourse manager. One of ordinary skill in the art would have no reason not expect success given this implementation of the teachings of Chapados. Therefore, the examiner contends that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Chapados in view Abella in order to implement a

plurality of discourse managers comprising finite state models, each capable of transitioning to any other discourse manager to reduce the necessary complexity of any single discourse manager, and further any reusable subdialogs of each discourse manager would be independent of application dependencies in order to avoid manual definition of dialog states and also to simplify the development of applications.

Regarding **claim 5**, Chapados in view of Abella discloses or renders obvious all limitations of **claim 3** as applied above, and Abella further discloses a rule-based decision model for the top level flow controller (Col. 3, lines 49-50).

It is further noted by the examiner that this limitation is inherent in the teachings of Chapados in view of Abella, as the broadest reasonable interpretation of “rule-based” would include a finite state machine as taught by Chapados, which is necessarily governed by specific rules for state transitions.

Regarding **claim 6**, Chapados in view of Abella discloses or renders obvious all limitations of **claim 1** as applied above, and Abella further discloses support for context shifts (Col. 13, lines 42-47) in the disclosure of shifting the focus of context from a user-requested operation to the proper acquisition of user input. The motivation to include this limitation from the teachings of Abella is the same as applied above to **claim 1** as each is directed to autonomous functionality of a dialog management system independent of application dependencies.

The examiner further notes that one of ordinary skill in the art would consider context shifts to be inherent in the teachings of Chapados as applied above to **claim 2**, as the disclosure of “wildcard transitions” is applicable to the limitation of context shifts as discussed above with regard to **claim 2**.

Regarding **claim 7**, Chapados in view of Abella discloses or renders obvious all limitations of **claim 6** as applied above, and Abella further discloses that context shifts are triggered by user input [unexpected input] and generate a name of a destination state [request] (Col. 13, lines 34-40, lines 42-47).

Regarding **claim 8**, Chapados in view of Abella discloses or renders obvious all limitations of **claim 1** as applied above, and Chapados further discloses when a top level flow controller [discourse management processor state] invokes a subdialog [permanent transition], the subdialog inherits the context shifts of the top level flow controller [permanent transition rules] (Col. 8, lines 31-41).

8. **Claims 9-11, 13-14, 16-18, and 20-21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Chapados.

Regarding **claim 9**, Chapados discloses a method of switching contexts [transitions] in a dialog system comprising:

- while the spoken dialog is being controlled by the first flow controller [discourse management processor], receiving context-changing input associated with speech from a user that changes a dialog context (Col. 9, lines 41-46);
- comparing the context-changing input to at least one context shift (Col. 9, lines 41-46);

The examiner contends that though this limitation is not explicitly disclosed by Chapados, it is inherent in any system that includes context shifts [transitions] based upon user input, such as the one disclosed by Chapados.

- if any of the context shifts [transitions] are activated by the comparing step, then passing control to an invoked second flow controller [another state] indicated by the context shift (Col. 7, line 66 - Col. 8, line 03; Col. 8, lines 06-16; Col. 9, line 65 - Col. 10, line 53); and

It is noted by the examiner that in addition to providing a written disclosure of this limitation, Chapados further teaches several specific operational examples that are applicable to this limitation (Col. 9, line 65 - Col. 10, line 53).

- if no context shift is activated by the comparing step, then maintaining control [stopping transitions] of the spoken dialog with the first flow controller (Col. 10, lines 61-67).

The examiner contends that though Chapados does not explicitly disclose multiple flow controllers that are finite state models, it is implied in the disclosure of multiple operating states, and is further rendered obvious in the disclosure of Chapados.

Chapados discloses a discourse management processor that is capable of self transitioning (Col. 9, lines 18-21). It is within the capabilities of one of ordinary skill in the art to implement the same features using multiple discourse managers that are each capable of transitioning to any other discourse manager in order to reduce the necessary complexity of the operations required of each discourse manager. One of ordinary skill in the art would have no reason not expect success given this implementation of the teachings of Chapados. Therefore, the examiner contends that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Chapados in order to implement a plurality of discourse managers comprising finite state models, each capable of transitioning to any other discourse manager to reduce the necessary complexity of any single discourse manager.

Regarding **claim 10**, Chapados discloses or renders obvious all limitations of **claim 9** as above, and further implies the at least one context shift

further comprises a table of context shifts in disclosing different types of context shifts [transitions] are accessible from a single state (Col. 8, lines 31-37).

Regarding **claim 11**, Chapados discloses or renders obvious all limitations of **claim 10** as applied above and further discloses storing a local context [parameters and data elements] associated with each of the first and second flow controllers [discourse manager], the local context maintaining a state of the flow controller that is independent of implemented subdialogs [functional modules].

Regarding **claim 13**, Chapados discloses or renders obvious all limitations of **claim 9** as applied above, and further renders obvious that an invoked flow controller [discourse manager] is added to a stack of flow controllers (Col. 8, lines 33-35).

Chapados discloses the determination of a sequence of states [goals] the user should be presented in a discourse [conversation]. As applied above to **claim 9**, Chapados further rends obvious the implementation of multiple top flow controllers. There, in disclosing the determination of a sequence of states, Chapados further renders obvious a sequence of flow controllers representing distinct states, which are implemented to decrease the necessary complexity of each controller. A stack is a well known method in the art for implementing a well-defined sequence, and it would be within the technical grasp of one of ordinary skill in the art at the time the invention was

made to implement. The examiner contends that there is no reason not to expect success from such an implementation.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, in view of Chapados, to implement a plurality of flow controllers [discourse managers] in a stack to provide a well-defined sequence of state transitions, where each flow controller represents a different state in order to reduce the necessary complexity of any single flow controller.

Regarding **claim 14**, Chapados discloses or renders obvious all limitations of **claim 13** as applied above, and further discloses that an invoked flow controller [state] inherits a context shift [wildcard transition] and becomes the recipient of all user input until said flow controller relinquishes control of the dialog ["in focus"] (Col. 3, lines 17-19, lines 30-32).

Regarding **claim 16**, this claim is very similar to **claim 9** and is rejected for the same reasons.

Regarding **claim 17**, this claim is very similar to **claim 10** and is rejected for the same reasons.

Regarding **claim 18**, this claim is very similar to **claim 11** and is rejected for the same reasons.

Regarding **claim 20**, this claim is very similar to **claim 13** and is rejected for the same reasons.

Regarding **claim 21**, this claim is very similar to **claim 14** and is rejected for the same reasons.

9. **Claims 23-25, and 27-30** are rejected under 35 U.S.C. 103(a) as being unpatentable over Abella in view of Chapados.

Regarding **claim 23**, Abella discloses a dialog manager comprising:

- a reusable subdialog [object] that is isolated from application dependencies (Col. 8, lines 35-38),
- wherein the means for managing the process of controlling speech interaction [dialogue manager] invokes the reusable subdialog [object] to handle a specific task associated with the speech interaction [question selection] and return control to the means for managing the process of controlling speech interaction after handling the specific task (Col. 8, lines 22-24, lines 34-35)

However, Abella does not disclose, but Chapados discloses the use of a finite state controller [discourse management processor] (Col. 2, lines 20-24) for controlling speech interaction involving reusable subdialogs [functional modules] (Fig. 4, elements 400-410, Col. 6, lines 41-45).

The two references are combinable because each is directed to a dialog management system. Chapados provides motivation to combine in disclosing the utility of implementing a dialog manager using finite state models for the purpose of evolving the system according to the context of the conversation without undue complexity (Col. 2, lines 24-31).

Therefore, the examiner contends that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Abella using the teachings of Chapados for the purpose of implementing a dialog management system with reusable subdialogs that utilized finite state models in order to allow the system to evolve without undue complexity.

Regarding **claim 24**, Abella in view of Chapados discloses all limitations of **claim 23** as applied above, and Abella further discloses wherein the reusable subdialog receives context data [weight] upon being called up by the means for managing the process of controlling speech interaction [dialogue manager] and returns data associated with its interaction with the user [query to user] (Fig. 3; Col. 9, lines 14-21).

Regarding **claim 25**, Abella in view of Chapados discloses all limitations of **claim 24** as applied above, and Abella further discloses a plurality of means for managing the process of controlling speech interaction [objects, motivators], each of the means for managing the process of controlling speech interaction having at least one reusable subdialog associated with it (Col. 5, lines 27-37, lines 47-52, lines 56-61).

Regarding **claim 27**, Abella in view of Chapados discloses all limitations of **claim 25** as applied above, and Abella further discloses the means for managing the process of controlling speech interaction is a rule-based model (Col. 3, lines 49-50).

Regarding **claim 28**, Abella in view of Chapados discloses all limitations of **claim 25** as applied above, and Abella further discloses the means for managing the process of controlling speech interaction supports contexts shifts (Col. 13, lines 42-47).

It is noted by the examiner that though this limitation is not explicitly disclosed by Abella, it is inherently required in the disclosure of support for shifting the focus of context from a user-requested operation to the proper acquisition of user input.

Regarding **claim 29**, Abella in view of Chapados disclose all limitations of **claim 28** as applied above, and Abella further discloses that the context shift of the system is in response to user input (Col. 13, lines 42-47).

Regarding **claim 30**, Abella in view of Chapados disclose all limitations of **claim 28** as applied above, and Chapados further discloses when a means for managing the process of controlling speech interaction [discourse management processor] calls up a subdialog [functional module], the subdialog inherits the context shifts [transition rules] of the means for managing the process of controlling speech interaction (Col. 8, lines 38-41).

Chapados provides motivation in disclosing the utility of temporarily adding transition rules for the purpose of interpreting a specific user response (Col. 8, lines 49-52).

Therefore, the examiner contends that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Abella using the teachings of Chapados for the purpose of implementing a dialog management system with reusable subdialogs that utilized finite state models in order to allow the system to evolve without undue complexity, and further was capable of developing temporary context shift rules for the purpose of interpreting a specific user response.

10. **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over Chapados in view of Abella and in further view of Brown (US Patent 5,699,456), cited in the previous Office Action.

Regarding **claim 4**, Chapados in view of Abella disclose or render obvious all limitations of **claim 3** as applied above.

Chapados in view of Abella does not disclose, but Brown discloses, a decision model for a flow controller consisting of a recursive transition network (Fig. 5; Col. 7, lines 21-29).

The references are combinable because each is directed to a system that includes speech input from a user. Brown provides motivation to combine in disclosing the utility of recursive transition networks in associating arcs between subdialogs with sub-networks, rather than endpoints, for the purpose of increasing a system's operational specificity (Col. 7, lines 21-31, lines 35-39).

Therefore, the examiner contends that it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the teachings of Chapados using the teachings of Abella and the teachings of Brown for the purpose of implementing a dialog manager comprising a finite state model that includes application independent sub-dialogs for the purpose of avoiding manual definition of dialog states and simplifying the development of applications, and further utilized recursive transition networks to increase the specificity of the system's operation.

11. **Claim 26** is rejected under 35 U.S.C. 103(a) as being unpatentable over Abella in view of Chapados and in further view of Brown.

Regarding **claim 26**, Abella in view of Chapados discloses or renders obvious all limitations of **claim 25** as applied above.

Abella in view of Chapados does not disclose, but Brown discloses the use of a recursive transition network for controlling speech interaction (Fig. 5; Col. 7, lines 21-31, lines 35-39).

The references are combinable because each is directed to a system that includes speech input from a user. Brown provides motivation to combine in disclosing the utility of recursive transition networks in associating arcs between subdialogs with sub-networks, rather than endpoints, for the purpose of increasing a system's operational specificity (Col. 7, lines 21-31, lines 35-39).

Therefore, the examiner contends that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Abella using the teachings of Chapados and the teachings of Brown for the purpose of implementing a dialog management system with reusable subdialogs that utilized finite state models in order to allow the system to evolve without undue complexity, and further utilizing recursive transition networks to increase the specificity of the system's operation.

Allowable Subject Matter

12. **Claims 12 and 19** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding **claim 12**, Chapados discloses or renders obvious all limitations of **claim 11** as applied above, but does not properly disclose that a second flow controller [state] receives data values stored in the local context of a first flow controller.

Chapados is the most relevant art to this limitation, as it discloses or otherwise renders obvious all other limitations inherited from parent **claim 11**. Chapados further discloses a data storage unit (Col. 6, lines 26-29), which stores parameters and data elements for use by subdialogs [functional modules]. However, Chapados does not properly disclose an association of this data storage unit with the top level flow controllers [discourse managers], or the states within the top level flow controllers, instead only associating this storage with the subdialogs.

The other relevant prior art found does not adequately disclose this limitation in a manner that would anticipate or properly render obvious a plurality of top level flow controllers transmitting data in a unilateral direction because of a context shift.

Regarding **claim 19**, this claim is very similar to **claim 12** as would be allowable if rewritten in independent form for the same reasons.

Conclusion

13. Please note that though the examiner providing signatory authority for this action has changed, the examination has been performed by the same examiner throughout prosecution.

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Kovacek whose telephone number is (571) 270-3135. The examiner can normally be reached on M-F 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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DMK 01/17/2008


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